

CLAIMS

What is claimed is:

1. A stimulatory device for a foot of a subject, comprising:
5 a vibrational source associated with an article of footwear to the foot of the subject to provide stimulation to the foot through vibrational stimulation;
a sensor coupled to the source and operable to modify output characteristics of the source; and
10 the sensor being operable to detect a step of the subject.
2. The device according to claim 1, wherein the sensor is located in a heel region of the article.
- 15 3. The device according to claim 1, wherein the sensor is operable to cause the source to provide stimulation prior to a step detection event.
- 20 4. The device according to claim 1, wherein the device may be formed in an insole, to permit insertion of the device in the article with the insertion of the insole.
- 25 5. The device according to claim 1, wherein the sensor device is operable to turn the vibrational source on and off according to foot pressure.
6. The device according to claim 1, further comprising a source controller interposed between the sensor and the vibrational source and operable to receive control inputs from the sensor
30 device and provide control outputs to the vibrational source.

7. The device according to claim 6, wherein the controller is operable to provide magnitude control to vary magnitude of the vibration from the vibrational source.

5 8. The device according to claim 6, wherein the sensor device is operable to indicate proportional force to permit variation in control of the vibrational source.

9. The device according to claim 6, wherein the controller
10 further comprises a processor for running an algorithm related to control of the vibrational source based on input information from the sensor device.

10. An item of foot apparel including the device of claim 1.

15 11. An item of foot apparel including the device of claim 6.

12. A method for stimulating a subject's foot during periods of ambulatory activity, comprising:

20 sensing a force indication related to movement of the foot of the subject;

controlling a stimulation device coupled to the foot of the subject to stimulate the foot of the subject based on sensed force indications; and

25 applying stimulation to the foot of the subject over an interval that includes the foot being supported by an ambulatory support and preventing application of the stimulation during an interval that includes the foot being unsupported by an ambulatory support.

30 13. The device according to claim 6, wherein the sensor is located in a heel region of the article.

14. The device according to claim 6, wherein the controller is operable to cause the source to provide stimulation prior to a step detection event.

5

15. The device according to claim 6, wherein the device may be formed in an insole, to permit insertion of the device in the article with the insertion of the insole.

10 16. The method according to claim 12, further comprising operating the stimulation based on an algorithm supplied to a processor coupled to the stimulator in conjunction with a sensed force input.

15 17. The method according to claim 12, further comprising varying a magnitude of the stimulation in proportion to a sensed force input.